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OPERATING AND MAINTENANCE MANUAL

THROUGHOUT FLESHING MACHINE

"SP31"
"SP34"

INTRODUCTION

READ THE "OPERATING AND MAINTENANCE" MANUAL WITH CARE BEFORE USING THE MACHINE. ALL OPERATING INSTRUCTIONS HAVE THE OBJECT OF PROTECTING YOUR HEALTH AND SAFETY!
THESE INSTRUCTIONS, IN ADDITION TO SAFEGUARDING YOU AND YOUR INVESTMENT, ALSO INDICATE THE BEST PROCEDURES FOR CORRECTLY OPERATING THE MACHINE AS CALLED FOR BY THE MANUFACTURER.

This documentation constitutes an integral part of the machine and must accompany it during all changes of ownership or business transfers.

WHO TO CONTACT IN CASE OF BREAKDOWNS

Many technical problems can be eliminated by minor repairs. We recommend that you carefully consult this manual before you contact our Service Department.
Turn to the manufacturer whenever the breakdown or malfunction cannot be solved.

MANUFACTURER'S DATA

Costruzioni Meccaniche Persico S.r.l.
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Partita IVA: 0154192 023 5
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CE statement of compliance

CE

S. Giovanni Lupatoto

Manufacturer: **Costruzioni Meccaniche Persico S.r.l.**
Via Garofoli, 288
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P. I.V.A.: 01541920235

Person in charge to keep the technical file :
Alfredo Nieri
Via Garofoli, 288
37057 S.Giovanni Lupatoto (VR) - Italia

States under its own responsibility that the new machine

Type: Fleshing machine
Model: SP31/SP34
Serial Number:
Year of manufacture:

Described as follow: "SP31/SP34" combined hydropneumatic throughout fleshing machine for fleshing pelt and hair hides with 3100 mm / 3400 mm useful working width and complete with electric system, differentiated fleshing device, 1 worm screw assembly, base, 1 platform assembly, accessories.

Complies with the provisions of the European Community directives given in the publications:

- Directive 2006/42/CE
- Directive 2006/95/CE
- Directive 2004/108/CE

Legal representative of the firm specified as manufacturer:

Costruzioni Meccaniche Persico Srl
Alfredo Nieri

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Hydraulic diagram
Spare parts manual
Inverter's setting manual

STRUCTURE OF THE MANUAL

This manual consists of eleven parts containing:
1. GENERAL STANDARDS AND WARNINGS - introductory remarks that help you understand and use the manual;
2. GENERAL INFORMATION - introductory remarks that help you identify the machine;
3. TECHNICAL DATA - information on machine characteristics;
4. INSTALLATION - notes for correctly installing the machine in the factory;
5. OPERATING INSTRUCTIONS - interface for a safe machine operation;
6. MACHINE START-UP - information on work procedures on-board the machine;
7. MAINTENANCE - tips and recommendations;
8. REMOVAL AND REINSTALLATION OF CRITICAL COMPONENTS - information on safety procedures for performing these operations;
9. MACHINE DISMANTLING AND DEMOLITION;
10. DRAWINGS AND FIGURES;
11. TECHNICAL DATA ATTACHMENTS including:
Spare parts manual;
Wiring diagram manual;
Hydraulic diagram manual.

1 - GENERAL STANDARDS AND WARNINGS

1.1 WARNINGS

This operating and maintenance manual is an integral part of technical documentation regarding the “SP31” and “S34” throughout fleshing machine.
The manual must be kept with care and made available to all personnel involved. The manual, in harmony with the overall machine project, has been drawn up in full compliance with European Community directives: publications No. 2006/42/EC - 2006/95/EC - 2004/108/EC.
The manual has three functions: as a tool for the machine operator, as a technical and commercial reference for the Customer and as an in-house document for the Costruzioni Meccaniche Persico S.r.l. Company.

1.2 PRINTING CONVENTIONS

The user’s manual uses the following printing conventions:

Symbol	*Meaning*
	The notes contain important information placed outside the main text: give them your full attention.
	The warning messages contain the procedures, indicated in the manual, which must be complied with to avoid damage to the equipment.
	The caution messages indicate specific procedures which must be complied with to prevent harm to the machine operator.

2 - GENERAL INFORMATION

The following pages illustrate to the user how to identify the “SP31” or “SP34” products manufactured by Costruzioni Meccaniche Persico S.r.l. This is particularly important in the long run to permit the manufacturer to quickly and precisely give the customer technical information or help of any kind.
We, therefore, recommend that you do not alter or remove the information necessary for identifying the product.

2.1 WHAT IDENTIFIES THE MACHINE

The physical means of identification is the silk-screened and/or engraved and printed identification plate that carries the information to give to Costruzioni Meccaniche Persico S.r.l. in case of need. This is the only means recognized by the manufacturer as a valid means for identifying the product.

2.2 WHERE THE IDENTIFICATION PLATE IS LOCATED

The identification plate is located on the door to the electric board on the front left side of the machine (See Figure 2).

Figure 1

Figure 2

2.3 GUARANTEE

Costruzioni Meccaniche Persico S.r.l. guarantees this machine as set forth by contract. Costruzioni Meccaniche Persico S.r.l. replaces, under guarantee coverage, all components that are found to be defective during the guarantee period because of evident or hidden defects in raw materials or manufacturing errors within the limits described below.
Worn or broken components must be returned to Costruzioni Meccaniche Persico S.r.l. in order to determine the causes of the defect and be able to apply guarantee coverage to the specific problem.
The user must follow the instructions for proper machine operation and maintenance. Particular importance must be attached to installation, start-up, lubrication, cleaning instruction and the routine maintenance schedule (chapter 7).
Failure to comply with these instructions will invalidate guarantee coverage.
The components to be replaced or repaired must be sent free to our factory in S. Giovanni Lupatoto.
Defective components must be returned free to our factory in S. Giovanni Lupatoto.

2.4 GUARANTEE DURATION

The duration of the guarantee is as set forth by the contract. This period starts from the date of shipment of the machine.

2.5 EXCLUSIONS AND LIMITATIONS

Parts normally subject to wear are excluded. Other components such as light bulbs, fuses, etc. which have undetermined durations are excluded from guarantee coverage.
Guarantee coverage refers exclusively to the machinery and components delivered by Costruzioni Meccaniche Persico S.r.l. and excludes claims for consequential damages or losses.
Guarantee coverage is subject to Purchaser's full compliance with his obligations and shall not be valid if the material is modified or tampered with by others or if precautions for protecting the machine from operating errors have not been adopted.

2.6 STATEMENT OF OBJECT AND USE OF THE MACHINE

"SP31" or "SP34" throughout fleshing machines are designed to process whole cowhides. The machine performs fleshing using systems similar to traditional fleshing machines with the substantial difference that it is only necessary to introduce the skin for the length necessary for proper conveying and the machine will then process the entire skin without having to turn it to complete fleshing.
The skin is unloaded from the rear of the machine with the grain on top and consequently ready for any subsequent processing by a splitting machine. "SP31" or "SP34" throughout fleshing machines have totally hydraulic drives. Use calls for two operators on-board the machine as well as personnel at ground level to supply the skins.
The machine can be completed by several optional devices. These do not change its mode of operation or object but permit improvement of several processing or operating characteristics.
A brief description of optional equipment follows. Refer to specific manuals for more detailed information.

OPTIONAL

Screw assembly - the screw assembly is installed, on request, below the fleshing rollers and consists of two stainless steel hoppers containing a helical spiral. It conveys flesh out from the machine without using water. It is powered by a hydraulic motor and is equipped with a hydraulic unit.
This assembly is totally independent from the machine itself and can be mounted, on request, on all machines in place of traditional water-powered flesh discharge systems.

Flesh expulsion pump - when the screw assembly is installed the “P22” pump can also be installed.
This pump collects flesh and push it through a 120-140 mm diameter tube up to a distance of 100-150 meters.

Pneumatic skin manipulator - The “M23” manipulator conveys skins from their collection station up to the fleshing machine for processing. It consists of two or three runways (depending on the model). Each runway consists of a beam carrying a winch with a pneumatic clamp for hooking up the skins.

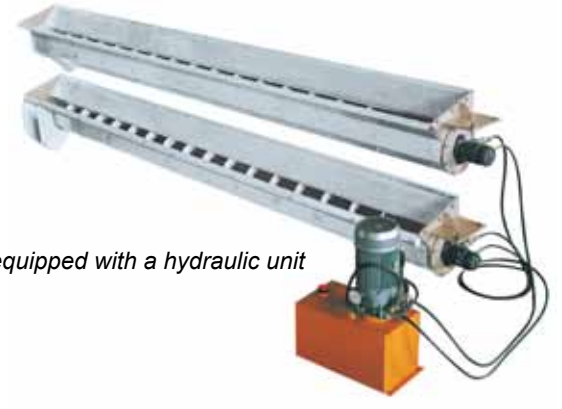
Skin manipulator support - this accessory supports the manipulator’s beams. Otherwise they must be anchored to the ceiling. It makes it easier to move the machine about in the factory, if necessary.

Steel struts - the struts are steel bases on which the machine is anchored. They support the machine at a height above pavement level that permits flesh to be discharged into the pump or into the collection slide. Struts also prevent the need to build reinforced concrete walls to perform the same function. Steel struts are delivered complete of gates connected to the safety system to prevent access below the machine during work.

Additional maintenance platforms - additional platforms consist of a set of galvanized iron catwalks around the machine to permit safe maintenance procedures. They are delivered dismantled for shipping purposes but are all numbered to permit easy assembly.

The following figures illustrate the various accessories available for the machine.

Complete system

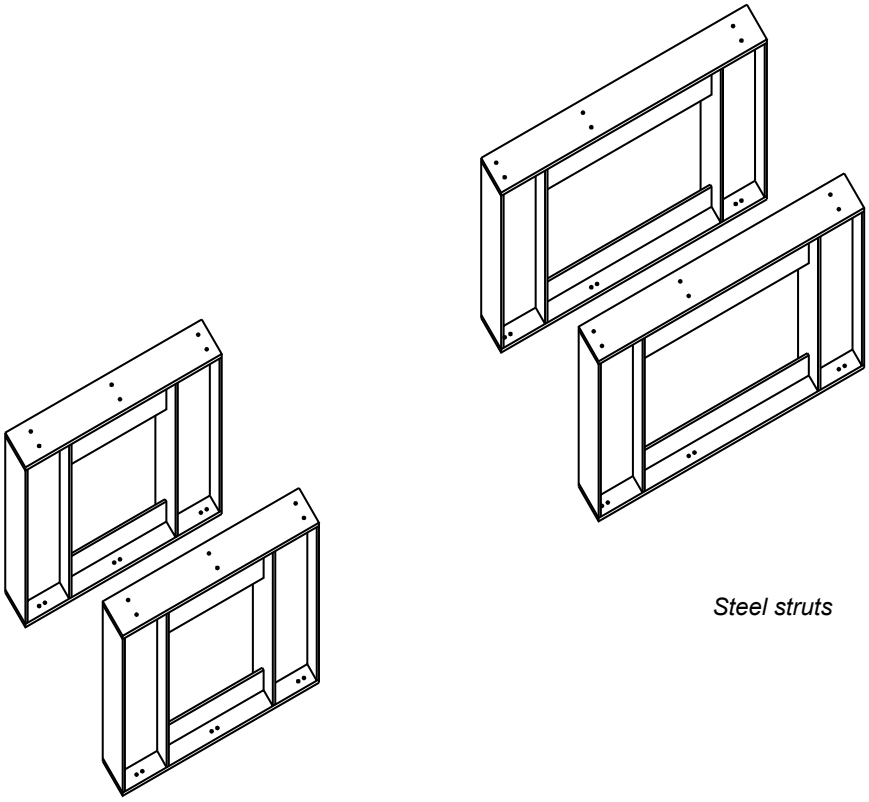


Screw assembly equipped with a hydraulic unit

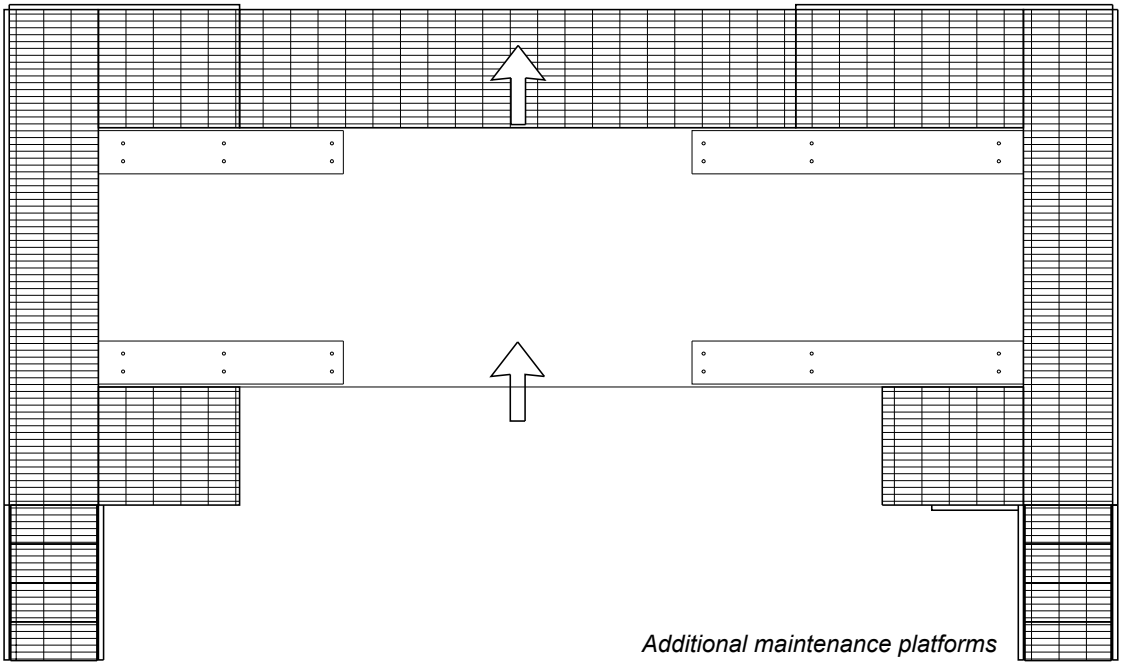
Flesh pump with hydraulic unit

Pneumatic skin manipulator with electric board

Pneumatic skin manipulator installed on the skin manipulator support



Steel struts



Additional maintenance platforms

2.7 FORECAST AND NOT-FORECAST MACHINE USES

"SP31" and "SP34" throughout fleshing machines are designed to process whole green or pelt cowhides. Skins must have a maximum width of 3100 mm or 3400 mm depending on the model and a length that is not less than 1200 mm.

Processing of any other material or material with unsuitable dimensions can create risk of damage to the machinery and harm to the operator.

3 - TECHNICAL DATA

The following table gives technical characteristics for the "SP31" and "SP34" fleshing machines. Read the table with care before performing handling and installation procedures.

3.1 TECHNICAL CHARACTERISTICS

Useful working width	mm.	**3.100**	**3.400**
Minimum length of skins to be processed	mt.	1,2	1,2
Max. variable fleshing speed	mt/min	55	55
Total installed power	Kw	70	80
Approximate net weight	Kg	20.000	21.000
Overall dimensions	mm.	6.500	6.800
Width	mm.	2.150	2.150
Height	mm.	2.750	2.750
Overall crate dimensions model S3121	mm.	2.330x7.030x2.970	
Overall crate dimensions model S3421	mm.	2.330x7.330x2.970	
Crate weight	Kg.	1.800	2.000

4 - INSTALLATION

4.1 MACHINE PACKING AND STORAGE

The machine, after factory testing, is prepared for shipment, packed and protected as agreed upon in the contract. The machine can be shipped on truck without any packing or in a sea-packing crate. In this latter case the truck must have a lowered bed. The machine is totally covered with a thin layer of protective product before it is packed. If the machine will be stored in a warehouse for a long period of time it must be placed where it is protected from weather and/or blows which could generate dangerous malfunctions or alterations.

In any case if storage time at the destination site will be greater than 2/3 months then the packing should be opened and the protective film restored.

STORAGE TEMPERATURE: ..... from -25°C to +55°C
WORKING TEMPERATURE:..... from 0° to +40°C
NO-CONDENSING RELATIVE HUMIDITY:..... from 5% to 90%
Inside the control junction box

4.2 UNPACKING

To unpack the machine (when it is inside packing) first remove the cover from the packing crate and then the side walls. Be careful not to damage the machine with the tools used to unpack it.
Check that the entire machine equipment is complete and sound according to what is indicated in the packing list.

4.3 CHECKING FOR DAMAGE

ALWAYS CHECK, before doing anything else:
That no part of the machine has been subject to blows during transport and/or handling.
That no water has penetrated into the control junction box.

4.4 MACHINE HOISTING INSTRUCTIONS

Hoisting may create danger situations for exposed persons. BE SURE TO COMPLY WITH the instructions furnished by Costruzioni Meccaniche Persico S.r.l. in this manual and to use suitable and properly checked equipment.
Hoisting personnel must be trained and authorized to use hoisting machinery and equipment.

It is the customer's responsibility to select the hoisting equipment and the cables, chains or slings held to be most suitable both in terms of efficiency and in terms of carrying capacity.

4.5 HOISTING AND POSITIONING THE MACHINE

When you are moving a machine that is still in its packing crate then position the sling cables at the points indicated on the packing crate. Check the total weight of the packed machine indicated on the crate.
When you are moving a machine that has been unpacked use the two specific holes located on top of the head in order to hoist it using the two gudgeon pins we deliver, with 75 mm. diameter and with four cables (figure 19). The gudgeon pins must be inserted all the way into their holes.

4.6 POSITIONING

Set the machine on a solid cement base. Remember that the machine's base has special holes for leveling and for anchorage. If a slide and water system is used to remove flesh from the machine, then the machine must be installed at a suitable height in order to be able to discharge the flesh at the desired distance.
If screw conveyors and an expulsion pump is used to remove flesh and to reduce water consumption to a minimum then the machine can be installed at a lower height (1200 mm. is recommended).
Steel struts can be delivered, as shown in figures 3 and 4, to make installation easier and faster. These struts have two sets of holes, "A" holes for anchoring the machine and "B" holes for leveling on the pavement.
These struts are installed below the machine while it is still suspended from the crane. Cement mortar must be used to fill any cracks in the pavement when installation is completed.
The machine is equipped with a work platform and slide for exiting skins. Additional platforms with related ladders and railings are delivered on request as shown in figure 7.
When delivery includes all this material the platforms are delivered dismantled in order to simplify transport. However the simplicity of their design and the fact that all parts are clearly numbered makes it very simple to reassemble them.

We strongly recommend that any trimming table or conveyor positioned near the stainless steel exiting belt of the fleshing machine, are easy to remove, because access in that area will be required for some maintenance.

4.7 CONNECTIONS

Electrical energy, water and compressed air utilities must be prepared in advance by the customer.

4.7.1 CONNECTION TO ELECTRIC MAINS

ALWAYS CHECK, before performing any operation: that the machine's forecast supply voltage and frequency correspond to those of the power grid. Make sure that connection conductors are suitably sized for delivery of at least

80 kW of electrical power. Normally the machine is built for a 400 Volt and 50 Hz power supply. Different voltages and frequencies can be provided on request.
A suitable magneto-thermal earth-leakage circuit breaking system, must be installed upstream from the machine according to EC standards.
Connection to the electric grid must be done by qualified personnel. Remember that the customer is responsible for installing the electrical supply line up to the terminal board on the machine.
Refer to figure 8 for passages for power cables.
Power conductors:
- 3 phase conductors
- 1 ground conductor

We call the customer's attention to the need to provide all the safety conditions necessary for properly grounding the machine.

The ground system must conform to current regulations in the country where the machine is installed and must be checked by qualified personnel.
Turn on the door interlock switch in figure 20: light 8 in figure 21 must turn on.
All motors have preset rotation directions and are already connected to the control board. Check that the input line is properly connected by checking the direction of rotation of the upper conveying rollers. To do this press push-button 4 in figure 21 and then push-button P7 in figure 22.
The conveying rollers must rotate so that they will pull the skin into the machine.
Follow the related instructions given in the start-up chapter in order to start the machine.

4.7.2 CONNECTION TO WATER MAINS

Connect pipe 1 in figure 27 to water mains using a 3/4¨ GAS threaded fitting.
Two handles are used to adjust water distribution to various points on the machine.
If the machine is equipped with screw evacuators for removing flesh then it only requires a minimum amount of water to cool the oil in the hydraulic circuit.

4.7.3 COMPRESSED AIR CONNECTION

The machine must be connected to a compressed air system with a minimum constant pressure of at least 2 Bar. The connection is a 3/8¨ GAS connection and is located at point 1 in figure 29.
The delivery rate of the compressed air system is not important: the air functions only to keep the pneumatic bolsters pressurized.

4.7.4 CHECKS TO PERFORM BEFORE START-UP

The machine must be tested in compliance with the contract.

The following figures indicate all the overall dimensions and all dimensions held to be useful for positioning the machine.

STEEL STRUTS

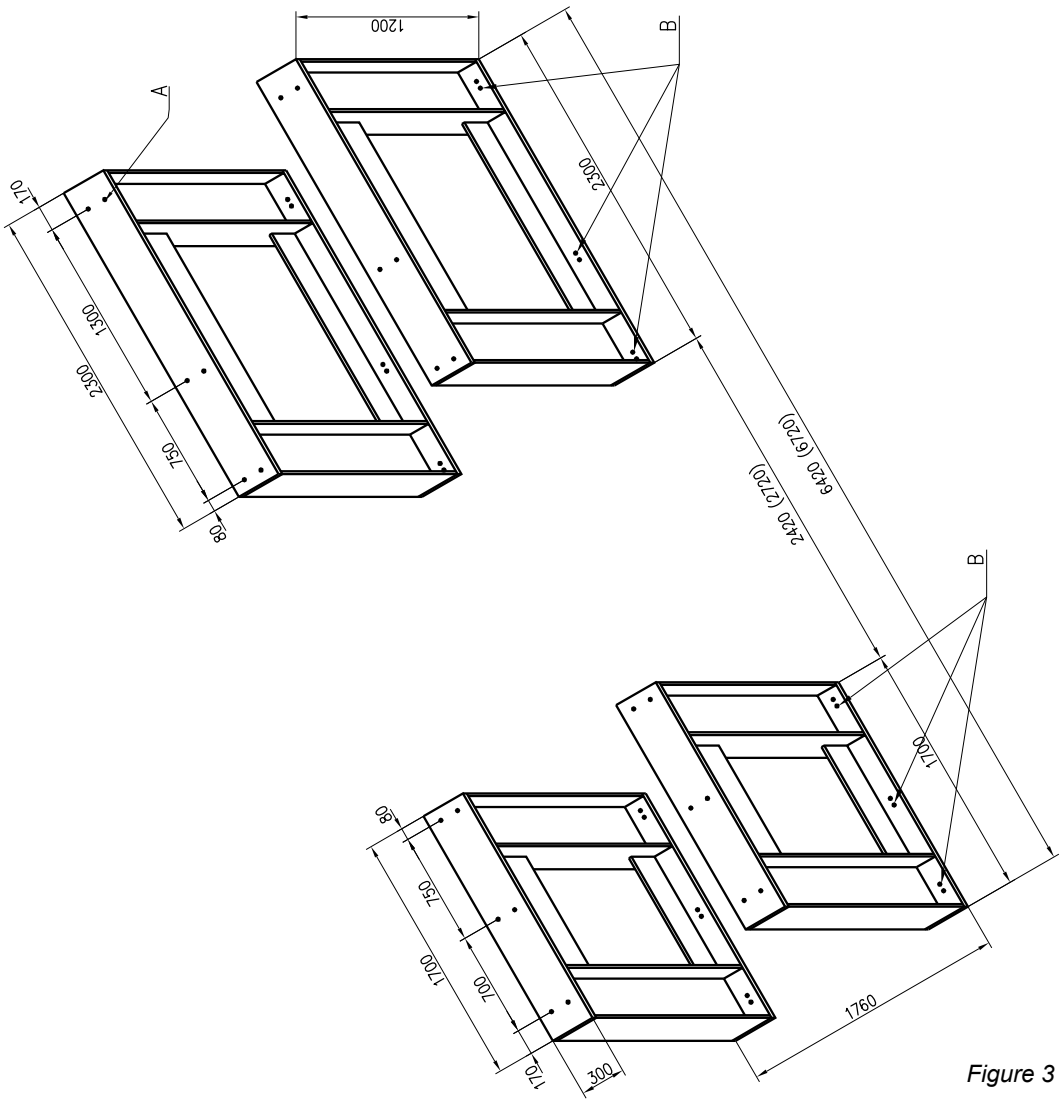


Figure 3

A- anchorage holes B- leveling holes

SAFETY GATES

Take care to set the steel struts so that, the only gate that you can open, is under the working platform.

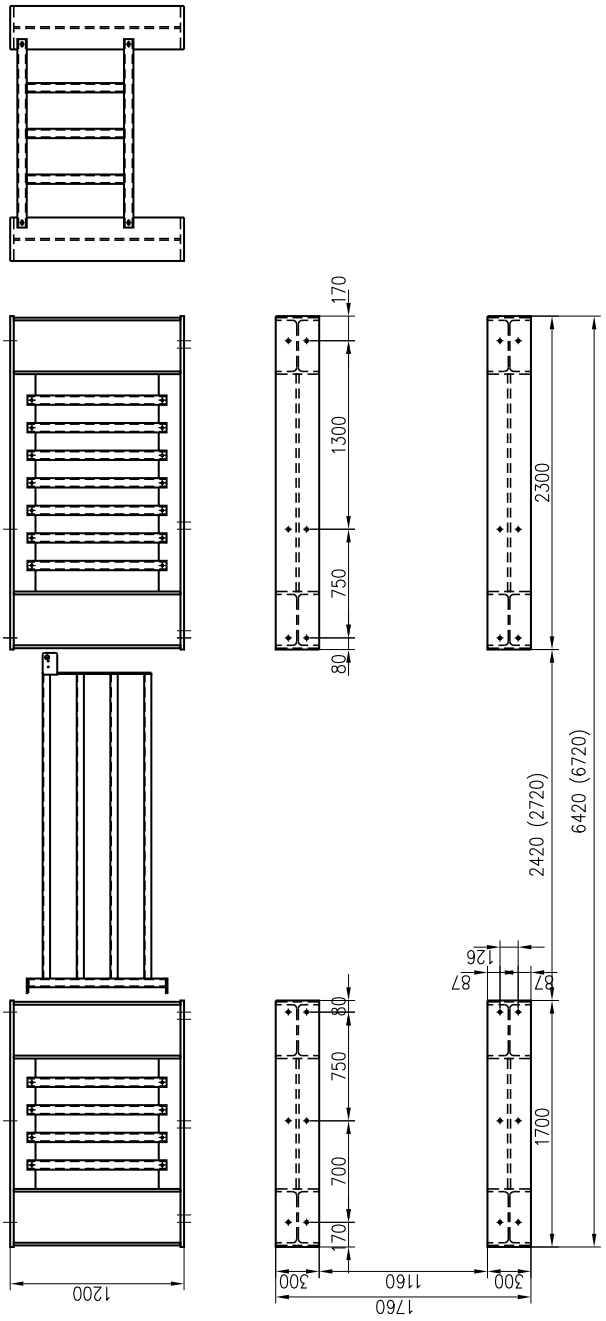


Figure 4

FLESH PUMP

Use the brackets provided to anchor the flesh pump to the steel struts, using the proper holes. It is possible to choose the direction for the exiting flesh.

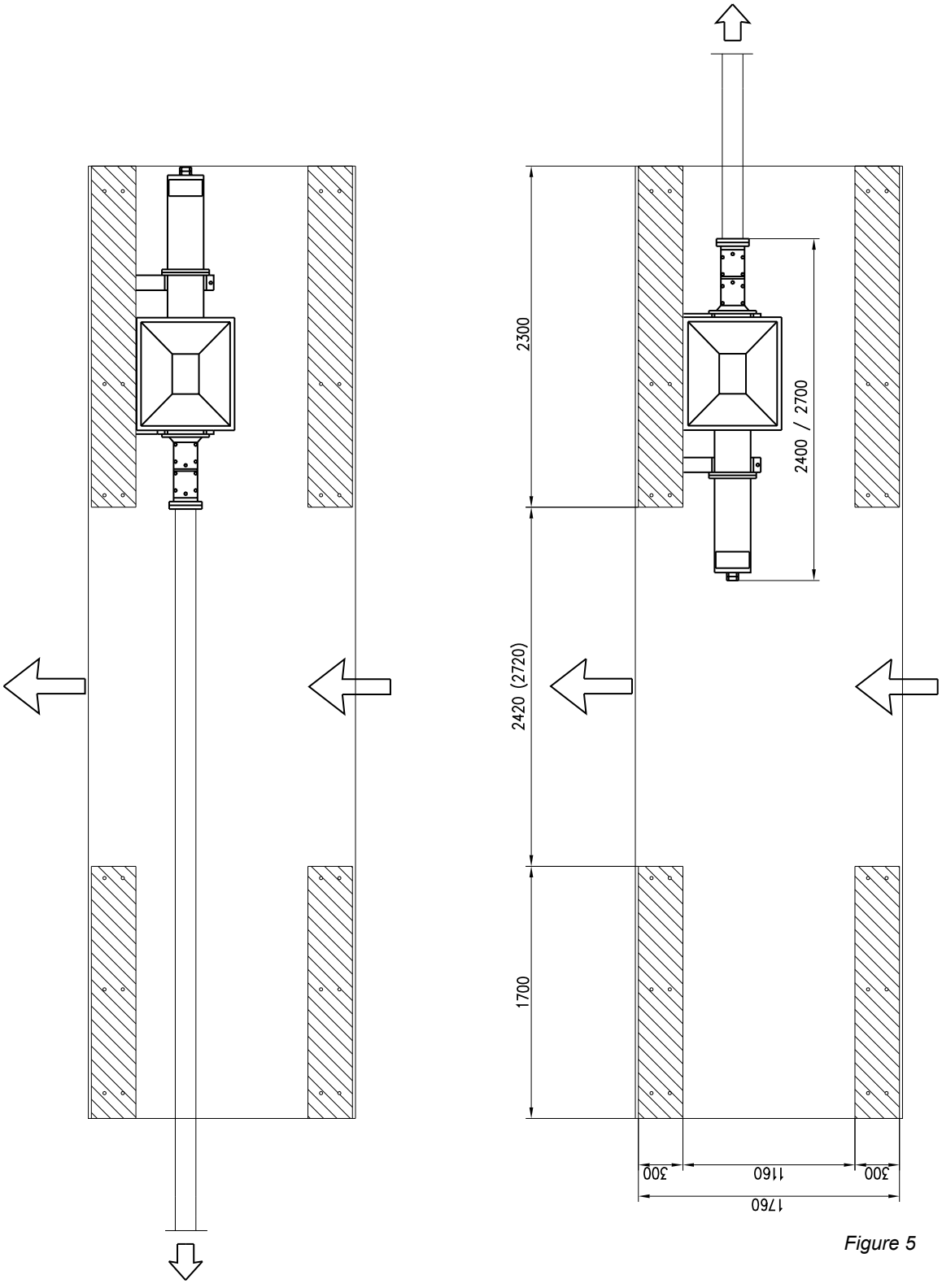


Figure 5

WORKING PLATFORM AND HIDE EXITING SLIDE

The working platform and slide will be delivered with the fleshing machine

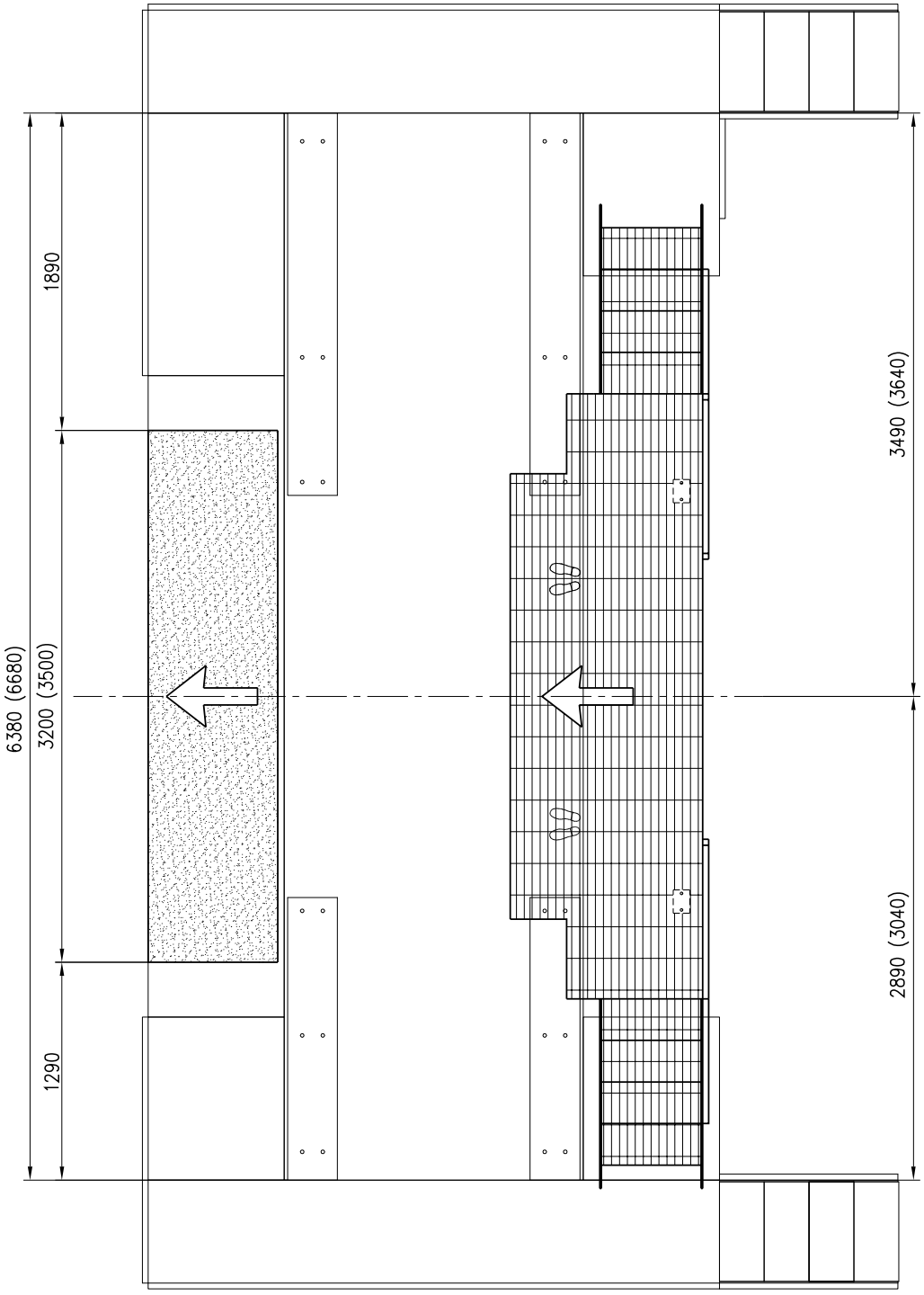


Figure 6

COMPLETE SYSTEM

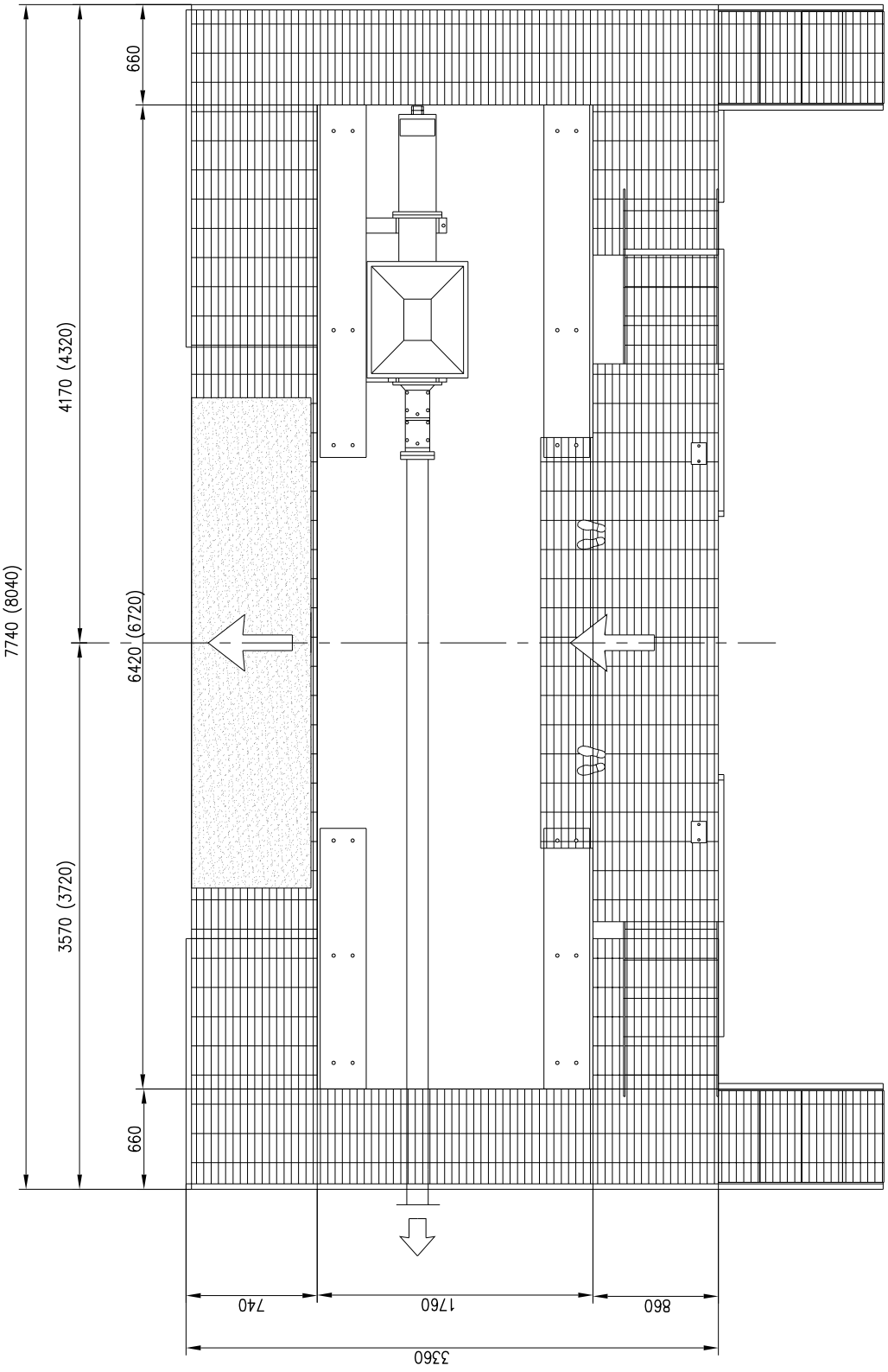


Figure 7

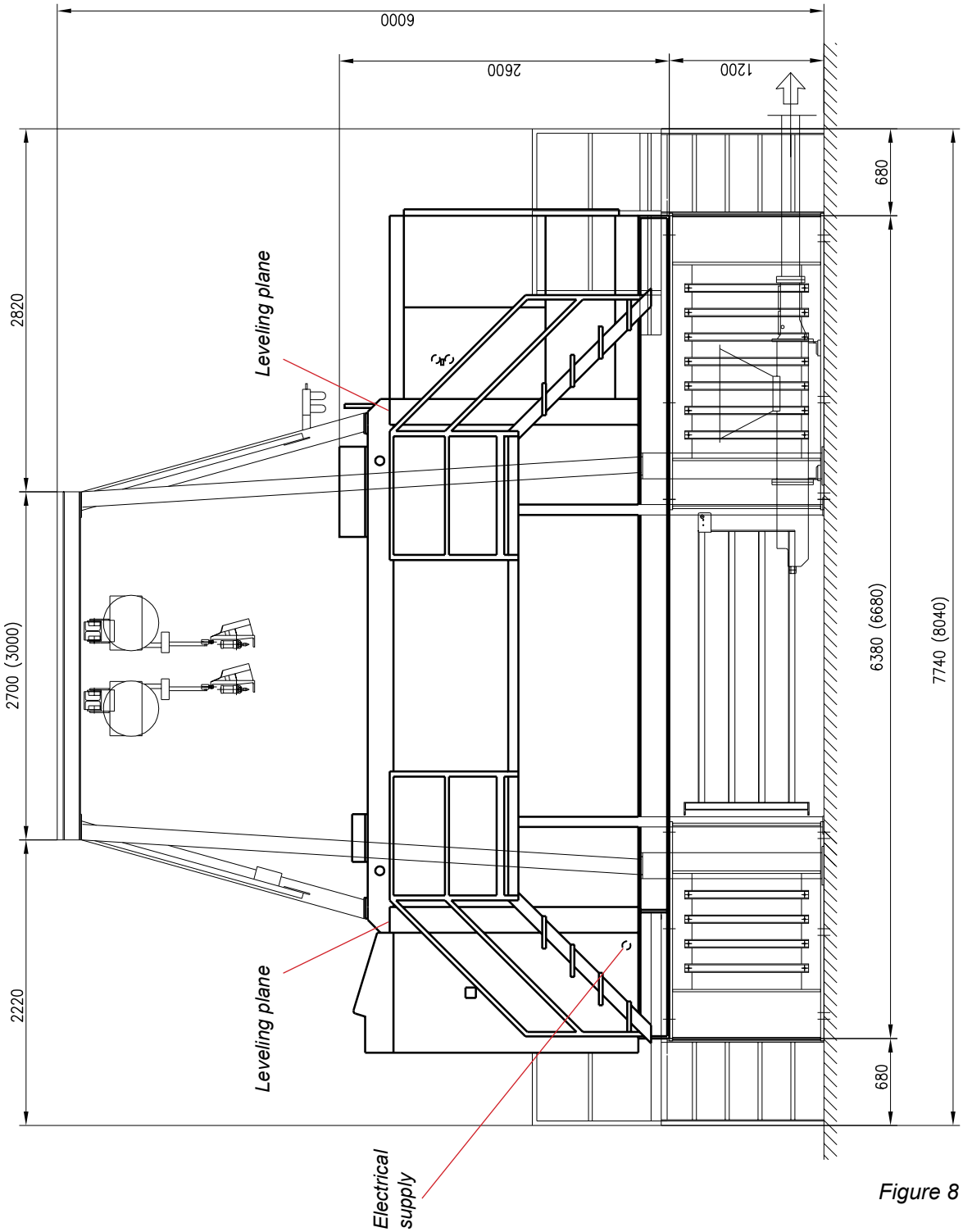

6000
2600
1200
680
2820
Leveling plane
2700 (3000)
6380 (6680)
7740 (8040)
2220
Leveling plane
680
Electrical supply

Figure 8

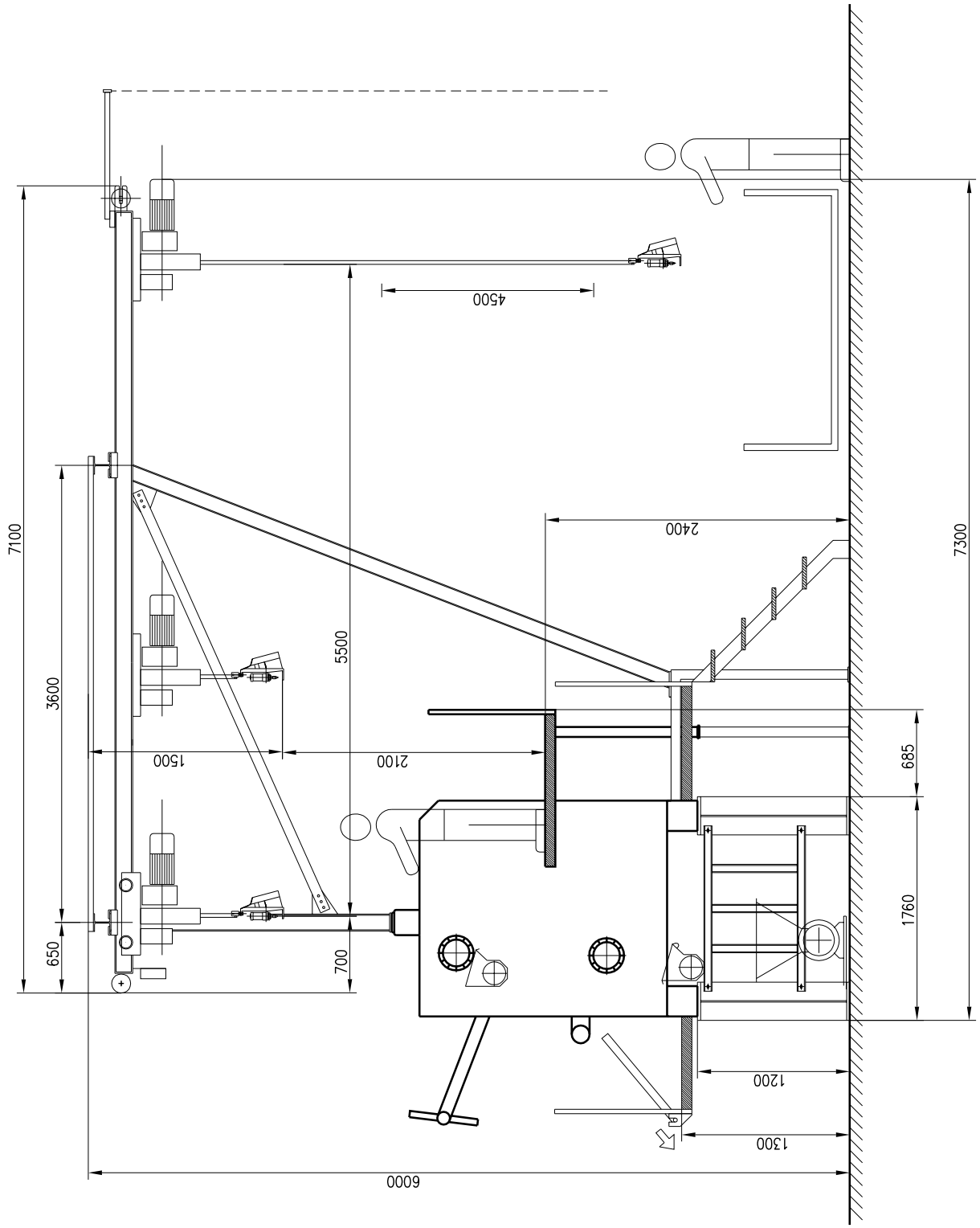

4500
7100
3600
650
5500
700
2400
7300
1500
2100
685
1760
1200
1300
6000

Figure 9